SUMMARY

OF THE

WATER SUPPLY PLAN

FOR THE

SOUTHEASTERN CONNECTICUT REGION

Prepared Jointly by the Staffs of the

SOUTHEASTERN CONNECTICUT WATER AUTHORITY

AND THE

SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY

1970

9
Southeastern Conn.
Water Authority

SUMMARY

WATER SUPPLY PLAN

FOR THE

SOUTHEASTERN CONNECTICUT REGION

U.P.A. Project Conn. P-104

This report is part of a comprehensive planning program being carried out in part with an Urban Planning Grant from the Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954, as amended, with a Water Supply Planning Grant from the Farmers Home Administration of the U.S. Department of Agriculture, and with financial participation of a state Water and Sewer Facilities Planning Grant from the State of Connecticut administered by the Office of State Planning.

Prepared jointly by the

SOUTHEASTERN CONNECTICUT WATER AUTHORITY

257 MAIN STREET, NORWICH, CONNECTICUT

and the

SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY

139 BOSWELL AVENUE, NORWICH, CONNECTICUT

February, 1970

SOUTHEASTERN CONNECTICUT WATER AUTHORITY

AUTHORITY MEMBERS

W. Paul Eddy, Chairman
Judge Michael P. Conway, Vice Chairman
Robert W. Smith, Treasurer
Shepard B. Palmer, Jr.*
J. Robert Rowland*

REPRESENTATIVE ADVISORY BOARD

Morgan K. McGuire, Chairman, North Stonington
Kenneth E. Stober, Vice Chairman, Ledyard
Richard T. Wallace, Secretary, Sprague
Donald C. Allen, Sprague
Andrew Ciminera, Groton
Edwin Coffey, Salem
Charles F. Dimmock, Salem
Leon Drobiak, Griswold
Edward F. Dunn, Montville
Fred A. Gale, Preston
Richard B. Giddings, Ledyard
Lawrence Gilman, Bozrah
Joseph T. Gorreck, Colchester
William G. Grant, Jr., Lisbon
Jasper N. Green, East Lyme
Harry A. Jackson, Norwich
Roland H. A. Johnson, Preston
Adam Keemon, Griswold
Michael Kononchik, Montville
Harvey Mallove, New London
Charles R. Mann, Groton
Loren Marvin, Colchester
Roger Morency, Voluntown
Charles M. Morgan, Franklin
James Morrison, Stonington
James J. Murphy, Jr., Franklin
Harold E. Nash, Waterford
Wilfred A. Park, New London
Arthur V. Pintauro, North Stonington
Martin Rogan, Bozrah
Edgar B. Russ, Waterford
Philip J. Shannon, Norwich
Edward Strnad, Sr., Lisbon
Robert E. Vogelsang, Stonington
Hyman Wilensky, East Lyme

AUTHORITY STAFF

Raymond H. Snyder, General Manager
John F. Lenard, Senior Engineer
Douglas R. Crandall, Operations Manager
Hildegard W. Smith, Office Manager

SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY

MUNICIPAL REPRESENTATIVES

John O'Brien, Chairman, Stonington
David Wordell, Vice Chairman, Salem
Ira Wasniewski, Secretary, Colchester
Robert Stevens, Treasurer, Bozrah
Gerald Barker, East Lyme
Carl Benker, Lisbon
Sinai Bordeleau, Griswold
Peter Brouwer, East Lyme
Anthony Carboni, Franklin
George Chandler, New London
J. Alfred Clark, Jr., Ledyard
Philip Clark, Norwich*
Landon Davis, Jr., North Stonington
William Dunion, Jr., Norwich
Raymond Dupuis, Montville
James Flood, Preston
William Grant, Jr., Lisbon
Joseph Gorra, Waterford
Sidney Hall, Ledyard
John Janovic, New London
James Larrabee, Griswold
Frank Leigner, Jr., Groton
Ronald Lefebvre, Montville
Mrs. Grace Linden, Franklin
H. Paul McGee, Stonington
William Morgan, Jr., North Stonington
William Nash, Groton*
Nicholas Norton, Colchester
J. Lawrence Peters, New London
Henry Piszczek, Preston
Daniel Strunk, Groton
Albert Swatsburg, Waterford
LeRoy Tennant, Norwich
Arthur Thibeault, Sprague
John Wilyer, Bozrah
Mrs. Chase Woodhouse, Sprague

AGENCY STAFF CONTRIBUTING TO THIS PROJECT

Richard B. Erickson, Executive Director
Gerhard J. Amt, Assistant Director
Edmond N. Fidrych, Regional Planner
Arlene Lewis, Administrative Assistant
Mary Podurgiel, Secretary

* Member of Joint Water Supply Plan Steering Committee.

THIS SUMMARY . . .

. . . condenses the comprehensive two-volume water supply study for the Southeastern Connecticut Region. Volume 1 is an inventory of the 74 water works systems serving the region in 1969. Volume 2 presents a plan for meeting the region's water supply needs through the year 2020. Much detail and many qualifications are necessarily omitted from this summary; the reader is directed to the full report for more complete coverage.

SUMMARY OF VOLUME 1 INVENTORY

Volume 1 contains a description of each of the existing water utilities and gives the number of people who are dependent upon residential wells. Service to large consumers, industrial, institutional and commercial, is dealt with individually. Operating data and plant descriptions are presented, including the total present water requirements of each town. The map and table on the following page summarize the data on existing water supplies.

SERVICE

The population of the Southeastern Connecticut Region increased from 177,035 in 1960 to an estimated 216,800 in 1968, an average of 2.8% per year. The 52,026 water consumers represent an average of 4.2 persons per water service. 61% of the people were served by public supplies, while 39% depended upon individual wells.

PRODUCTION

Since water demands vary from year to year due to weather, etc., estimated needs will usually differ somewhat from actual water production. For example, estimated water requirements for the 36 load centers within the region for 1969 total 27.9 mgd, as indicated in the table on page 5; actual production during 1968, which was not a particularly dry year, totalled only 26.5 mgd. This amount was derived from 22.9 mgd recorded by utilities and an estimated 3.6 mgd from individual wells. Average residential water consumption is approximately 60 gallons per day per capita (gpd/cap). Total water consumed for all purposes considered in this report is 120 gpd/cap.

WATER UTILITIES

Water service was provided by the following classifications of water utility:

Municipal: more than 1,000 people	6
Investor-owned: more than 1,000 people	5
Municipal: 1,000 people or less	1
Investor-owned: 1,000 people or less	31
Home owners' associations	8
Mobile home courts	13
Industries: more than 1,000 gpd	4
Miscellaneous small supplies	6
Total	74

The total area served by utilities is less than 10% of the total land area of the region.

SOURCES OF SUPPLY

Surface reservoirs furnish all or an important part of the public water supplies in Sprague, Griswold, Groton, New London, Norwich, Stonington and Waterford. Other communities derive their water supplies from wells. The total number of wells in the region is approximately 20,500. The map at the rear of this summary shows the major existing water supplies.

TREATMENT

The Groton and Mystic supplies, accounting for 39% of the public water furnished in the region, receive treatment by conventional rapid sand filtration, including chlorination. The remaining surface supplies, 38% of the total, receive chlorination only. Well supplies which are chlorinated account for 5%, and unchlorinated well supplies 18% of the total.

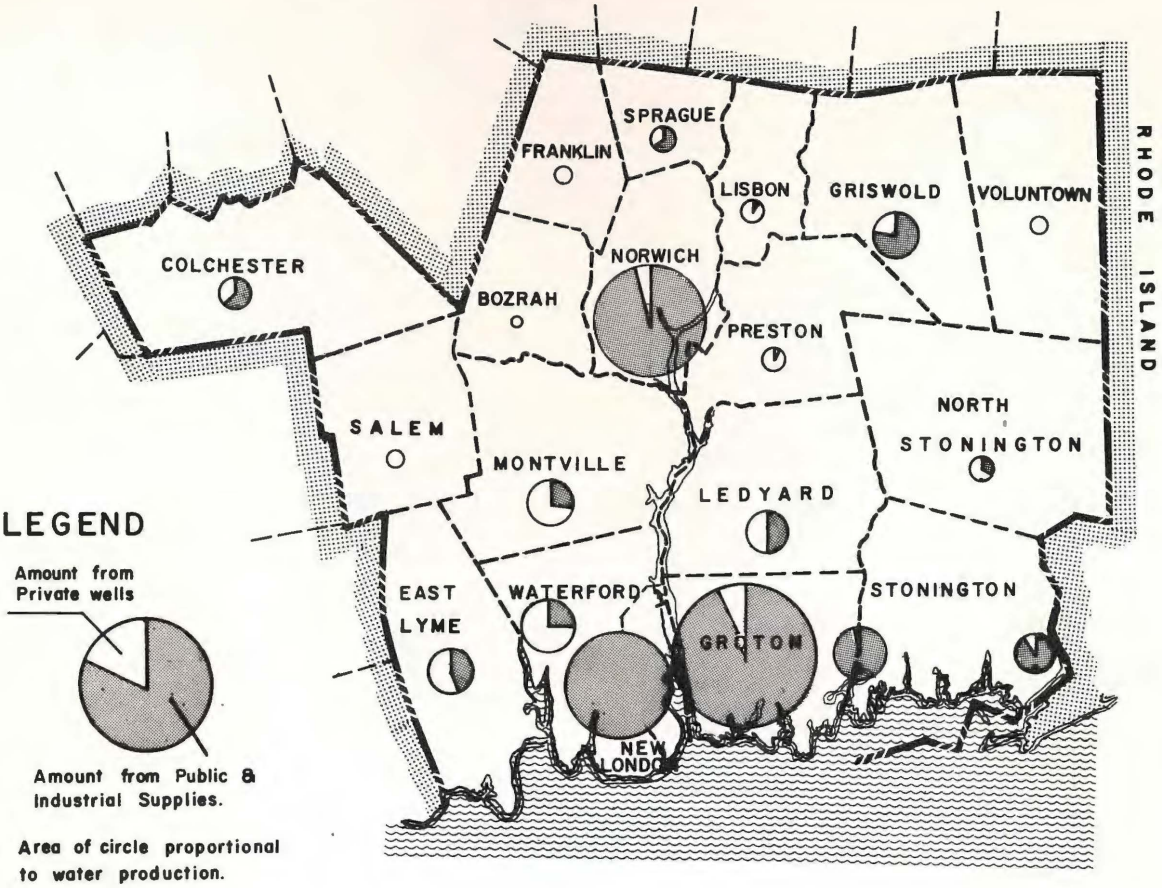
Analytical data suggest a number of water quality problems in the region. For example, raw water analyses indicate that a general policy of filtration of all surface supplies should be given strong consideration. This does not mean that present waters of surface origin are unsafe, for all of these are chlorinated. But filtration would increase the margin of safety and improve the general quality. And some form of iron and manganese removal is needed for a number of surface and ground water supplies.

TRANSMISSION AND DISTRIBUTION

The water systems of the region contain 507 miles of water mains. Older mains are almost exclusively cast iron, but asbestos-cement has been used increasingly in recent years. Service pipes are generally copper, with galvanized iron and some lead in the older lines; plastic is just starting to come into fairly general use in new service lines.

STORAGE FACILITIES

Some systems notably that of Norwich, rely upon impounding reservoir storage to provide distribution system pressure. In other cases, distribution reservoirs are employed. The smaller ground water supplies rely upon pneumatic tanks to maintain pressure in the distribution systems, ordinarily with air compressors keeping pressure in the tanks. In some cases there are intervening gravity storage tanks. There is a total of 20 distribution reservoirs in the region, with a total of 18.4 mil gal storage capacity. Total capacity of gravity and pneumatic tanks in well supplies other than individual residential tanks amounts to 1.8 mil gal. Total distribution storage of both sorts would sustain 21 hours of consumption at average rates.

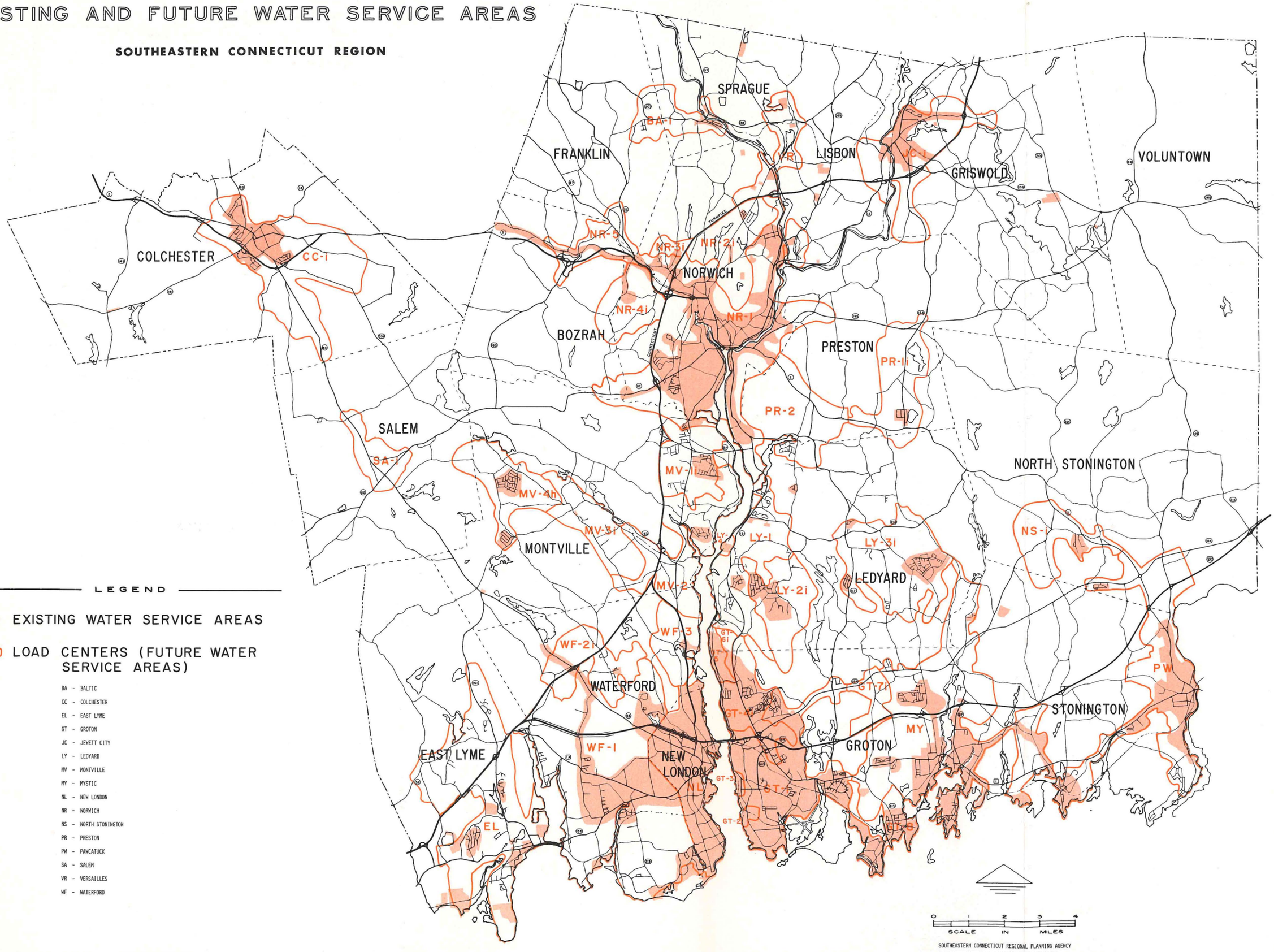


WATER PRODUCTION — SOUTHEASTERN CONNECTICUT

TOWNS	POPULATION 1960 CENSUS	POPULATION 1968 ESTIMATE	RESIDENTIAL WELLS UNITS SERVED	RESIDENTIAL WELLS %	OTHER SUPPLIES CUSTOMERS SERVED	OTHER SUPPLIES %	AVERAGE PRODUCTION - mgd UTILITY IND., COMM.	AVERAGE PRODUCTION - mgd RESIDENTIAL WELLS	AVERAGE PRODUCTION - mgd TOTAL
Bozrah	1,509	1,900	560	100.0	-	-	-	0.114	0.114
Colchester	4,648	5,800	670	39.1	988	60.9	0.224	0.136	0.360
East Lyme	6,782	9,800	1,900	66.0	941	34.0	0.322	0.400	0.722
Franklin	974	1,200	350	100.0	-	-	-	0.072	0.072
Groton-Stonington	43,906	60,300	3,900	21.8	9,130	78.2	11.007	0.234	11.241
Griswold	6,742	7,200	450	21.5	1,740	78.5	0.792	0.094	0.886
Ledyard	5,395	10,400	1,680	55.0	1,041	45.0	0.345	0.343	0.688
Lisbon	2,019	2,800	720	87.5	140	12.5	0.020	0.150	0.170
Montville	7,759	14,000	3,120	74.6	1,061	25.4	0.254	0.630	0.884
New London	34,182	32,000	-	0	6,737	100.0	4.340	-	4.340
North Stonington	1,982	3,400	670	67.1	302	32.9	0.063	0.136	0.199
Norwich	38,506	42,000	570	4.6	8,636	95.4	5.020	0.120	5.140
Preston	2,778	3,000	820	93.3	58	6.7	0.012	0.168	0.180
Salem	925	1,300	380	100.0	-	-	-	0.078	0.078
Sprague	2,509	2,700	280	35.0	384	65.0	0.169	0.057	0.226
Stonington-Groton covered above									
Voluntown	1,028	1,300	380	100.0	-	-	-	0.078	0.078
Waterford	15,391	17,700	3,960	76.1	1,058	23.9	0.326	0.808	1.134
TOTAL	177,035	216,800	20,410	39.0	31,616	61.0	22.894	3.618	26.512

EXISTING AND FUTURE WATER SERVICE AREAS

SOUTHEASTERN CONNECTICUT REGION



LEGEND

- EXISTING WATER SERVICE AREAS
- LOAD CENTERS (FUTURE WATER SERVICE AREAS)

BA - BALTIC
CC - COLCHESTER
EL - EAST LYME
GT - GROTON
JC - JEWETT CITY
LY - LEDYARD
MV - MONTVILLE
MY - MYSTIC
NL - NEW LONDON
NR - NORWICH
NS - NORTH STONINGTON
PR - PRESTON
PW - PAWCATUCK
SA - SALEM
VR - VERSAILLES
WF - WATERFORD

SCALE IN MILES 0 1 2 3 4

SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY
SOUTHEASTERN CONNECTICUT WATER AUTHORITY
1969

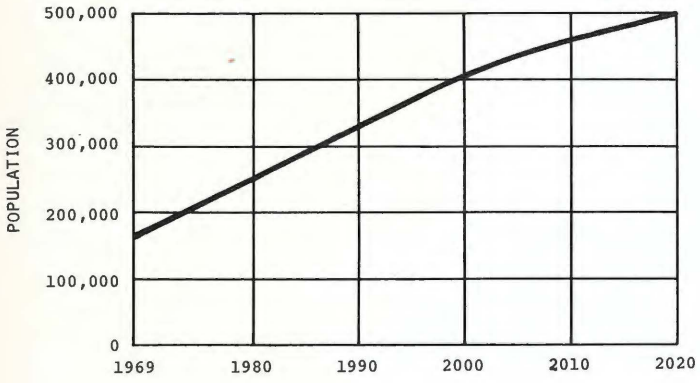
SUMMARY OF VOLUME 2
RECOMMENDED PLAN

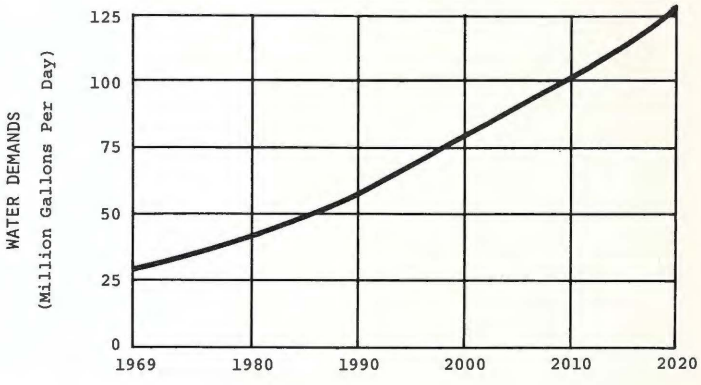
The need for a regional approach to water supply planning in Southeastern Connecticut has been increasingly apparent over the past decade. Some of the more rapidly growing towns have reached a point where they need large supplies of water but find that all reservoir sites within their borders are already developed or are too expensive for them to develop alone. In other instances, surplus water in one town goes unused while nearby communities are experiencing shortages.

The establishment of the Southeastern Connecticut Water Authority by the 1967 session of the Connecticut General Assembly is intended to insure an adequate supply of water for the future. To this end, the Authority is charged by statute to "plan, operate and maintain water supply system and, where necessary, construct water supply systems for the Southeastern Connecticut Planning Region."*

POPULATION AND WATER DEMAND PROJECTION

The first step in planning was to determine what portions of the region would require public water supply. With the Regional Development Plan adopted by the Southeastern Connecticut Regional Planning Agency in 1967 as a guide, and taking into account hydraulic limitations, 36 "load centers" were identified. These are areas which are expected to develop to a density of more than one family per acre or to serve significant industrial or institutional consumers by the year 2020. The load centers, along with areas presently served by public water supplies, are shown on the map facing page 2. Population projections and estimated total future demands are shown on the graphs below.





The table below shows the estimated water demands for the various categories of use.

PRESENT AND PROJECTED WATER DEMANDS
(millions of gallons)

Type of Use	%	1969	1980	1990	2000	2010	2020
Residential	38.0	10.7	15.4	22.2	30.7	39.0	47.9
Industrial	24.8	6.9	10.0	14.4	20.0	25.4	31.2
Commercial	9.6	2.7	3.9	5.6	7.7	9.8	12.0
Institutional	9.2	2.6	3.7	5.3	7.4	9.4	11.5
Public Use	4.2	1.1	1.7	2.4	3.3	4.2	5.1
Plant Use	4.2	1.1	1.7	2.4	3.3	4.2	5.1
Loss & Waste	10.0	2.8	3.9	5.7	7.9	10.0	12.3
Total: 36 Load Centers	100.0	27.9	40.3	58.0	80.3	102.0	125.1
Avg. gpd/cap		157	162	175	200	228	252

The basic purpose of the study is to develop a plan which will provide water supplies to make up the difference between present capacities and anticipated needs. The map opposite page 6 shows total water demands by decades for the various load centers, compared with the yields of existing water supplies.

* Public Act 381, 1967 Session, Connecticut General Assembly.

WATER RESOURCES

Surface Water

Many of the region's streams, lakes and ponds can provide adequate sources of water supply if they are properly developed by the construction of dams and reservoirs. At the present time surface reservoirs are the major sources of supply for all of the larger public water systems in the region. The suitability of constructing additional dams and reservoirs throughout the region was studied. Each potential site was evaluated from the geographical, physical and economic points of view, and potential yields were calculated.

Ground Water

Ground water is also important as a source of potable water. The complex glaciated topography of Southeastern Connecticut contains conditions suitable for yielding substantial amounts of ground water, which ordinarily costs less per mgd of yield than surface water.

The U.S. Geological Survey and the Connecticut Water Resources Commission in a joint publication identified 25 aquifers in the region having estimated yields in excess of 1 mgd. They range from 1.3 to 67 mgd, with a combined estimated yield of 288.3 mgd. However, it should be noted that there may be great differences between these estimated yields and the yields which can be attained under actual operating conditions. Thus, estimates of yields from ground water are not as accurate as those for surface water. Before ground water can be included quantitatively in long range planning in competition with surface water, it will be necessary to do sufficient field testing to provide the necessary basic data. Such a program is currently being developed in cooperation with the U.S.G.S.

Other Potential Supplies

The possible use of desalinated sea water, impounded tidal estuaries or major rivers was also considered. It was concluded, however, that none of these alternatives are as attractive as ground and surface water sources.

RECOMMENDED PLAN

The basic purpose of the Plan is to recommend the best means of providing for the future water needs of all parts of the region. The unconsolidated pattern of existing and future growth indicates that a single, unified system to serve the entire region is not practical. However, it is possible to combine certain load centers into groups that should logically be served from common sources by interconnected transmission and distribution systems.

The major feature of the Plan is the system of reservoirs and transmission mains that are recommended to satisfy the rapidly increasing water needs of the load centers located generally along both banks of the Thames River, referred to as the Central System. A linked system has been devised for this area which would permit development of a common source of additional supply and a single new filtration plant.

Satellite systems, or those that will be developed or expanded individually, will not necessarily be connected to other systems. And there will be numerous additional small developments in presently rural areas that will have their own systems, unrelated to those serving load centers and discussed in this Plan.

The map on the last page of this report shows the locations and features of the Plan that can satisfy the region's major water requirements until about 2005.

Central System

This group includes load centers in Groton, Ledyard, Preston, Norwich, Montville, New London and Waterford.

Phase 1 (1971-75) involves a 1.5-billion-gallon reservoir on Joe Clark Brook in northern Ledyard, augmented by water pumped from Shewville Brook. Untreated water would be diverted from this reservoir into the existing Groton water supply, providing that system with an additional 4 mgd. Filtered water would be transmitted south along State Route 12 to Gales Ferry, across the Thames River to Uncasville and south along State Route 32 to provide 4 mgd to the Waterford-New London system. 1.5 mgd would be available for areas of Ledyard and Montville adjacent to the transmission main. When feasible, a feeder main would extend from Uncasville north along State Route 32 to tie in with the Norwich system.

Phase 2 (1985-90) consists of a reservoir on Broad Brook in Preston, which would divert an average of 10.8 mgd into the Shewville-Clark system by gravity through a system of open channels, pipelines, and natural stream beds.

Phase 3 (1995-98) would provide for pumping an average of 7.5 mgd from the Pachaug River, just below Pachaug Pond, into the head of Rattlesnake Brook, tributary to Broad Brook Reservoir.

Phase 4 (After 2005) To further augment the Central System a number of additional water sources are available; including storage on Myron Kinney Brook and diversion from Shunock Brook, Green Fall River and Quinebaug River. Miller Pond or Hunts Brook, in Montville, could also be considered.

During each phase of this Central System development, ground water would also be used to the extent that subsequent tests prove economically feasible. And any surplus available from the Norwich system could be transferred into other parts of the Central System.

Colchester

This area will need an additional supply of 5.3 mgd. Ground water in the area can supply the needs through the year 1990; beyond that time demands can be met from one of several potential surface reservoirs.

PROJECTED WATER DEMANDS RELATED TO EXISTING SUPPLIES

SOUTHEASTERN CONNECTICUT REGION

LEGEND

WATER DEMANDS IN THOUSANDS OF GALLONS PER DAY
PRESENT YIELD
350 1.000 2.142 3.654 5.544 7.686 1.240
YEAR 1969 1980 1990 2000 2010 2020

LOAD CENTERS (FUTURE WATER SERVICE AREAS)

- BA - BALTIC
- CC - COLCHESTER
- EL - EAST LYME
- GT - GROTON
- JC - JEWETT CITY
- LY - LEDYARD
- MV - MONTVILLE
- MY - MYSTIC
- NL - NEW LONDON
- NR - NORWICH
- NS - NORTH STONINGTON
- PR - PRESTON
- PW - PAWCATUCK
- SA - SALEM
- VR - VERSAILLES
- WF - WATERFORD

SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY
SOUTHEASTERN CONNECTICUT WATER AUTHORITY
1969

Baltic

The anticipated future water demands of 1.2 mgd in this load center can best be met from ground water resources. If large amounts of water should be needed, they can be developed from a reservoir on Little River.

Jewett City

The additional need of approximately 4.0 mgd for this area can be met from the further extension of the ground water system.

Salem

A future demand of 0.8 mgd is foreseen for this load center. It can be supplied by a reservoir constructed on Harris Brook at a location approximately 1.3 miles north of Salem Four Corners, or possibly by ground water.

East Lyme

East Lyme is presently developing a unified municipal water system, with ground water as the initial source of supply. It is anticipated that 2 to 3 mgd will be available from this source, which would meet the water needs of the town for the next 10 to 15 years. The long range needs of the town are expected to be met by the development of the reservoir on Four Mile River. A future tie-in with the New London-Waterford system would provide additional security.

Mystic

A recently constructed well doubled the yield of this system, but additional sources of supply will be needed within 15 years. Such additions could come from a reservoir on Stony Brook or from additional ground water development.

Pawcatuck-North Stonington

In case Westerly cannot, or would prefer not, to supply Pawcatuck in the future, ground water resources can be developed for this area. Demand by the year 2000 is expected to be nearly 4.5 mgd.

CONSTRUCTION COSTS

The water supply and transmission facilities which are included in the Phase 1 development of the Central System are listed in the following table, along with the estimated costs of these facilities, at 1969 price levels. Estimates include an allowance for land acquisition and engineering costs.

COST ESTIMATE — PHASE 1 PROGRAM
CENTRAL SYSTEM

1.	Shewville Brook diversion dam	$ 200,000
2.	Clark Dam and Reservoir (El 170)	3,700,000
3.	Diversion channel from Clark Reservoir to Billings Avery Brook	100,000
4.	Shewville Brook pumping station (40 mgd)	650,000
5.	Filtration plant (6 mgd initial capacity)	2,900,000
6.	Diversion main Shewville Brook to Clark Reservoir (8,800 ft 36-inch pipe)	440,000
7.	Transmission main, filtration plant to Gales Ferry (29,000 ft 24-inch pipe)	1,000,000
8.	Thames River booster pumping station (6 mgd initial capacity)	500,000
9.	Thames River crossing, Gales Ferry to Uncasville (3,000 ft 24-inch pipe)	400,000
10.	Transmission main, Uncasville to Waterford (8,500 ft 24-inch pipe)	340,000
	TOTAL	$10,230,000

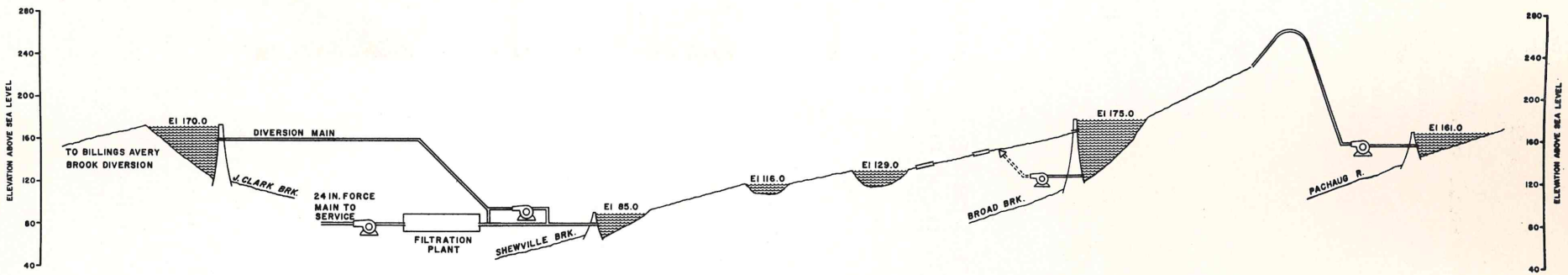
In addition, the approved Norwich and East Lyme water system improvement projects will cost an estimated $8,696,000 and $3,722,000, respectively. Well systems, which are quite variable in cost, are expected to serve most of the remainder of the region.

★ ★ ★ ★ ★

In approaching its responsibilities in the development of a regional water supply, the Authority has emphasized coordinated planning and operation, rather than any particular administrative structure. It is not considered essential that all elements of water supply within the region be under a single administration. Neither is it undesirable, however, that there be some consolidation of existing utilities. The Authority will employ a flexible approach, under which the public can obtain high quality water service at the lowest possible long-term cost.

SCHEMATIC FLOW DIAGRAM OF THE CENTRAL SYSTEM

CONSTRUCTION SCHEDULE	PHASE 1 1971 TO 1975	PHASE 2 1985 TO 1990	PHASE 3 1995 TO 1998



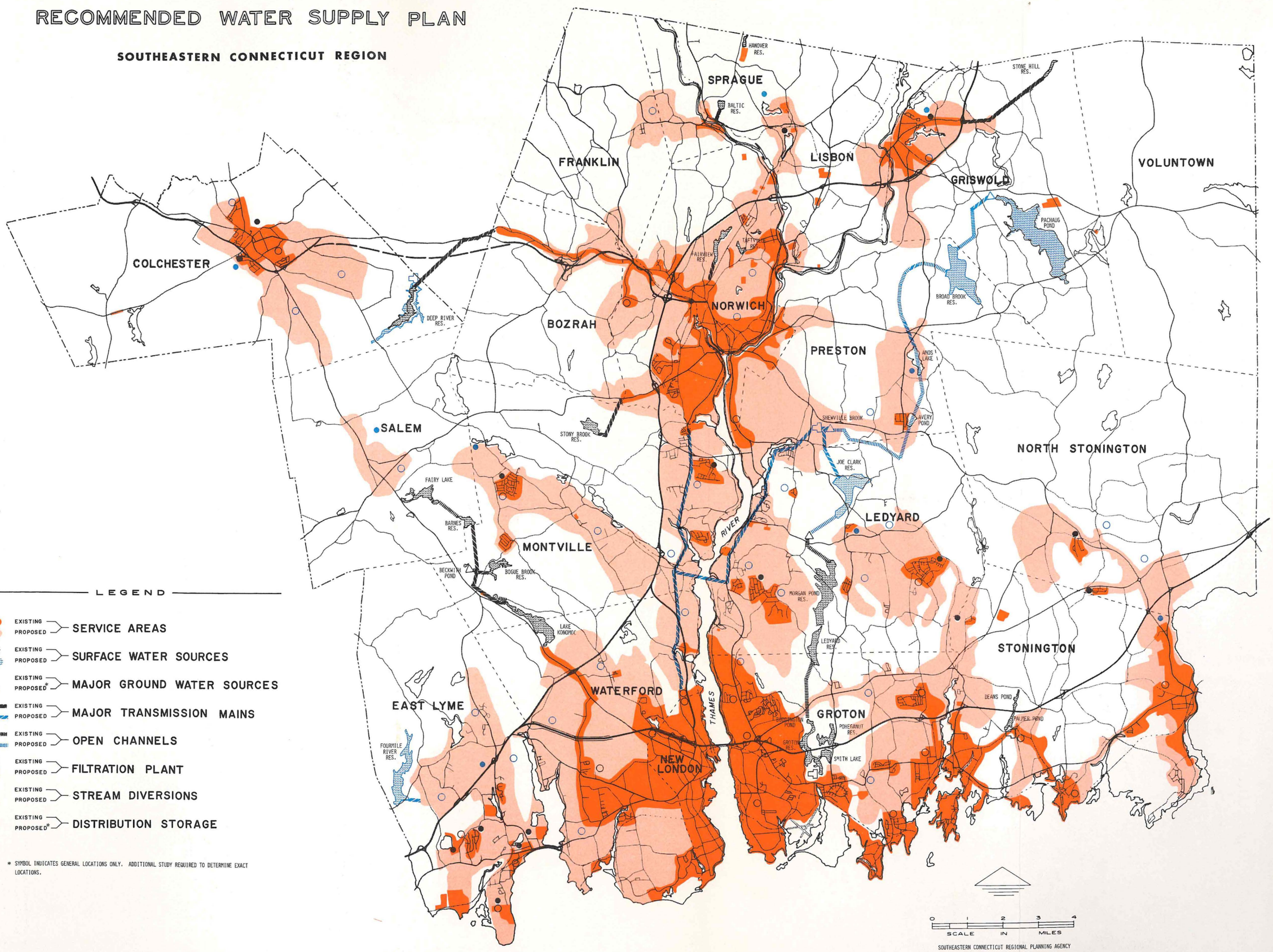
DIVERSION TO GROTON RESERVOIR SYSTEM	JOE CLARK BROOK DAM AND RESERVOIR	DIVERSION MAIN	FILTERED WATER PUMPING STATION	FILTRATION PLANT	RAW WATER PUMPING STATION	SHEWVILLE BROOK DIVERSION	PONDS, NATURAL WATERWAYS AND OPEN CHANNELS	OPEN CHANNEL WITH INTERMITTENT PIPING	BROAD BROOK PUMPING STATION	BROAD BROOK DAM AND RESERVOIR	NATURAL WATERWAY	DIVERSION MAIN	PACHAUG PUMPING STATION	PACHAUG POND
REGULATED OVERFLOW.	CAPACITY: 1.5 BIL GAL. YIELD: 9.5 MGD (INCLUDES SHEWVILLE BROOK DIVERSION). DRAINAGE AREA: 1.6 SQ. MI.	DIAMETER: 36 IN. LENGTH: 8,800 FT.	CAPACITY: 6 MGD INITIALLY, DESIGNED FOR STAGED EXPANSION.	CAPACITY: 6 MGD INITIALLY, DESIGNED FOR STAGED EXPANSION. PROCESS: CONVENTIONAL COAGULATION, SEDIMENTATION AND FILTRATION.	CAPACITY: 40 MGD.	FLOWS IN EXCESS OF MINIMUM STREAM FLOW PUMPED TO JOE CLARK BROOK RESERVOIR OR DIRECTLY TO FILTRATION PLANT. DRAINAGE AREA: 18 SQ. MI.	AMOS LAKE, AVERY POND AND EXISTING STREAM CHANNELS USED AS PATH OF FLOW, WITHOUT LOWERING WATER LEVELS. SOME CHANNEL CLEARING AND TRENCHING REQUIRED.	WATER FROM BROAD BROOK DIVERTED TO AMOS LAKE. SOME PIPING, TRENCHING AND CHANNEL CLEARING NECESSARY.	CAPACITY: 12 MGD. PUMPING STATION TO UTILIZE RESERVE STORAGE ONLY.	CAPACITY: 5 BIL GAL. YIELD: 10.5 MGD. DRAINAGE AREA: 12 SQ. MI.	RATTLESNAKE BROOK USED TO TRANSMIT WATER FROM DIVERSION MAIN TO BROAD BROOK.	DIAMETER: 30 IN. LENGTH: 4,100 FT.	CAPACITY: 12 MGD. FLOWS IN EXCESS OF MINIMUM FLOW OF PACHAUG RIVER PUMPED TO RATTLESNAKE BROOK.	CAPACITY: 1.7 BIL GAL. YIELD WITHOUT DRAWDOWN: 7.5 MGD. YIELD WITH 5 FT. DRAW-DOWN: 9.0 MGD. DRAINAGE AREA: 60 SQ. MI.

SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY
SOUTHEASTERN CONNECTICUT WATER AUTHORITY

FIGURE 10

RECOMMENDED WATER SUPPLY PLAN

SOUTHEASTERN CONNECTICUT REGION



LEGEND

- EXISTING / PROPOSED — SERVICE AREAS
- EXISTING / PROPOSED — SURFACE WATER SOURCES
- EXISTING / PROPOSED* — MAJOR GROUND WATER SOURCES
- EXISTING / PROPOSED — MAJOR TRANSMISSION MAINS
- EXISTING / PROPOSED — OPEN CHANNELS
- EXISTING / PROPOSED — FILTRATION PLANT
- EXISTING / PROPOSED — STREAM DIVERSIONS
- EXISTING / PROPOSED* — DISTRIBUTION STORAGE

* SYMBOL INDICATES GENERAL LOCATIONS ONLY. ADDITIONAL STUDY REQUIRED TO DETERMINE EXACT LOCATIONS.

0 1 2 3 4
SCALE IN MILES

SOUTHEASTERN CONNECTICUT REGIONAL PLANNING AGENCY
SOUTHEASTERN CONNECTICUT WATER AUTHORITY
1970

DATE DUE

AP 5'72			
AG 25'72			
MAY 6 1975			
GAYLORD			PRINTED IN U.S.A.

TD
224
C8S6

291825

TD
224
C8S6

291825

AUTHOR
Southeastern Connecticut Water Authority

TITLE
Water supply plan for the Southeastern Connecticut region

DATE DUE	BORROWER'S NAME
FE 9 '72	Bradeen (Serials)
AP 5'72	LEVANDOSKI '73
Ap~~7~~ '72	Circulation Office
[illegible]	[illegible]

CONNECTICUT COLLEGE LIBRARY
3 1839 0035 2866 2